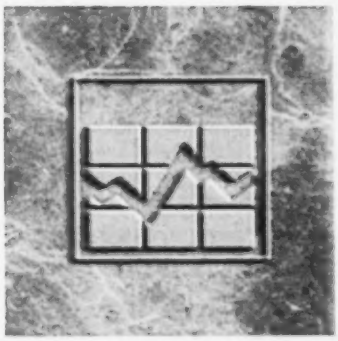
Catalogue no. 75F0002MIE — No. 005
ISSN: 1707-2840
ISBN: 978-0-662-46241-5

Research Paper

Income Research Paper Series

Persistence of Low Income Among Non-elderly Unattached Individuals



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June 2007

Catalogue no. 75F0002MIE, no. 005
ISSN 1707-2840
ISBN 978-0-662-46241-5

Frequency: occasional

Ottawa

La version française de cette publication est disponible sur demande (nº 75F0002MIF au catalogue).

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Abstract

This research examines the characteristics of non-elderly unattached Canadians who experience persistent low income and their transition patterns into and out of low income. It also examines the factors associated with increased risk of persistent low income.

The study found that unattached individuals aged 45 to 64, the activity limited, the not employed, visible minorities, and high school leavers all faced a higher rate of the most persistent low income (6 years out 6). Family formation reduced the incidence and persistence of low income.

Statistical analyses showed that among working-aged unattached individuals, those who faced the greatest risks of the most persistent low income included the unemployed and those who had reported limitations to work. Individuals also at great risk were those who had not completed high school, those who were aged 45 to 64, or those whose unattached status remained unchanged over the six-year study period.

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1. Introduction

Between 1980 and 2005, the number of non-elderly unattached individuals[1] living in low income more than doubled, rising from 530,000 in 1980 to 1.18 million in 2005. By 2005, unattached individuals under 65 years of age made up 35% of all Canadians[2] in low income, but only 11% of the Canadian population. During the same 25-year period, the proportion of this group in low income – known as the low income rate – rose from 30% to 34%. After 1989, this group of Canadians was more likely to face low income than any other group as defined by family status.

During the same period that unattached Canadians under 65 saw their low income rates rise, low income rates fell for other family groups, including the elderly (attached and unattached), two-parent families with children, and lone parent families. Part of the decline in the low income rates of the elderly was due to changes in government transfers and migration to areas with lower living costs. Lower income families with children benefited, particularly in the last decade, from more generous government transfer programs, such as the Canada Child Tax Benefit (CCTB) and National Child Benefit Supplement (NCBS). Lone parent families also benefited from these transfer programs, as well as an increase in their market income and an increasing proportion of such families with at least one earner.

The contrasting experience of non-elderly unattached Canadians underlines the importance of examining their low income experience. Previous studies established that this group is subject to a higher risk of low income and is likely to face more persistent low income. This study extends the findings of previous research using more recent data from the Survey of Labour and Income Dynamics.

This study tries to shed light on the following questions. What are the socio-demographic characteristics of the non-elderly unattached in low income, and are these consistent with findings in previous studies? In particular, are the low income trends of this group largely driven by young adults, who may either be full-time or part-time students, or in the early stages of their career with understandably lower earnings? Or are the low income trends of this group driven by other sub-groups who remain at persistent risk of facing low income at later periods in their life? What are their transition patterns into and out of low income of this group? In particular, how do changes in family status, such as family dissolution and family formation, impact these transitions? What are the patterns of persistent low income faced by this group, as compared to family persons? And finally, what are the characteristics of unattached individuals that put them at greater risk of persistent low income?

To shed some light on these questions, the paper is organized as follows. The next section provides a review of the literature. The third section outlines our research methodology, including a description of the data source and data limitations, methods of analyses, and statistical modeling techniques. Section four presents descriptive statistics

1. Non-elderly unattached individuals are individuals aged 18 to 64 who live alone or live with individuals to whom they are not related by blood, marriage or adoption.
2. These data cover all individuals in Canada, excluding residents of the Yukon, the Northwest Territories and Nunavut, residents of institutions, and persons living on Indian reserves.

with respect to the trends and socio-demographic characteristics of unattached non-elderly in low income. Section five examines the impact of family formation and dissolution on the transition into and out of low income of unattached individuals. It also presents socio-demographic characteristics associated with persistent low income faced by this group. Section six uses multinomial regression models and longitudinal data to identify socio-demographic factors that are associated with an increased risk of persistent low income. The final section summarizes our key findings and poses questions for further research.

2. Literature Review–Persistent low income

Previous studies first established that non-elderly unattached Canadians were more likely to face low income than other groups, and were also more likely to face persistent low income. They examined the characteristics associated with low-income and persistent low income faced by this group. This section provides a sample overview of some of these studies.

Picot and Myles (2004) examined persistent low income rates between 1996 and 2000, focusing on differences among five groups: unattached individuals aged 45 – 64; lone parents; recent immigrants (10 years in Canada or less); persons with work-limiting disabilities; and off-reserve Aboriginals. They found that unattached individuals aged 45-64 faced the highest persistent low income rate (34%) among the five groups studied.

Morissette and Drolet (2000) showed that the persons most likely to experience low income, for either at least one year or for four consecutive years, had less education, faced work limitations throughout the period, were recent immigrants or members of visible minorities, or were unattached individuals or members of lone-parent families. Morissette and Zhang (2001) found that 23% of unattached individuals were in low income for four years or more from 1993 to 1998, almost three times the average for the broader population, 8%.

Hatfield (2004) incorporated dimensions of incidence and depth of low income to examine the persistence of low income by comparing cumulative family income to a cumulative amount of pre-defined low income threshold. He found that 29.2% of unattached individuals aged 45-64 between 1996 and 2001 experienced persistent low income, making this group the most vulnerable to persistent low income when compared to other four high risk groups: persons with a work-limiting disability; recent immigrants; lone parents; and Aboriginal people living off reserves. Hatfield's study defined persistent low income as a state in which a family's six-year cumulative income fell below the six-year cumulative after-tax low-income cut-off either during the period 1993 to1998, or between 1996 and 2001.

Laroche (2002) applied duration analysis[3] to quantify the persistence of low income and the likelihood of exit from or re-entry into low income. He assessed multiple spells of low income and took into account observable socio-demographic characteristics along

3. Duration analyses examine transition probabilities of exiting or entering low income spells to assess persistence of low income.

with unobserved heterogeneity in personal characteristics. Laroche found that unattached individuals were less likely to exit low income spells and more likely to re-enter them than all other types of economic families apart from lone-parent families.

In the current study we focus on non-elderly unattached individuals and examine their low income experience between 1980 and 2005. We look in detail at some of their socio-demographic characteristics, such as sex, age group and education; then turn to examine how changes in family composition are associated with changes in low income status. To do this, we exploit longitudinal data to uncover the characteristics most associated with persistent low income among unattached individuals.

3. Methodology

Data

Data used for cross-sectional, descriptive analysis in section 4 comes from the Survey of Consumer Finances (SCF) for the period from 1980 to 1996, and from the Survey of Labour and Income Dynamics (SLID) for the period from 1997 to 2005. Both surveys are household surveys that sample all individuals in Canada, excluding residents of the Yukon, the Northwest Territories and Nunavut, residents of institutions and persons living on Indian reserves. Overall, these exclusions amount to less than 3 percent of the population.

Data used for the longitudinal analyses in section 5 comes exclusively from the Survey of Labour and Income Dynamics (SLID) from 1993 to 2004. This section uses three complete six-year panels, where each panel consists of household members who are interviewed each year for six years. Since a new panel is introduced every three years, the SLID sample contains one panel for 1993-1998, one for 1996-2001, and one for 1999-2004. This means that data for 1993 to 1995 come from a single panel, while data for 1996 to 2004 come from two overlapping panels. Each panel consists of roughly 15,000 households and about 30,000 adults.

For the longitudinal analysis, the study restricts our sample to unattached individuals age 18 to 64 who responded to the survey for each year of the six-year panel to which they belonged. For any particular SLID panel, the sample size for our focus group is relatively small, measuring roughly 1,900 respondents who were unattached and aged 18-64, in the first year of the panel. To overcome sample size limitations, the study combines the three SLID panels, to increase the effective sample size of our focus group to 5,656 persons out of a total of 84,281 survey respondents in the three combined panels.

Methods

The unit of analysis of this study is the individual. However, since family members living in the same household are believed to pool their economic resources (The Canberra Group 2001; Skuterud, Frenette and Poon 2004), family income defines income status, including low income status.[4] This study defines a family as an "economic family",

4. See Skuterud, Frenette and Poon (2004) and "*Low income Cut-offs for 2005 and Low Income Measures for 2004*", Statistics Canada Catalogue no. 75F0002MIE – No.004, on adjustments on low income scales and cut-offs that control for family size to make them comparable between individuals and families or families of different sizes.

which refers to individuals living together and related by blood, marriage or adoption.[5] As such, an economic family reflects the notion of an extended family living in the same dwelling.

Individuals are considered to be in low income if they live in a low-income family. A family is in low income after-taxes if its after-tax income is below the after-tax Low Income Cut-Off (LICO). After-tax income takes into account market income (employment income, investment income, pension income, etc), government transfers received, and personal income taxes paid. In turn, after-tax LICOs are income thresholds below which families spend 20 percent more of their after-tax income on food, shelter and clothing than does the average family. Different LICOs exist for different family sizes and different community sizes, including a rural and urban community classification.

To allow for socio-demographic comparisons between our focus group (unattached individuals) and economic family persons, a family's major income earner serves as the reference or comparison person. This allows comparison of an unattached individual with that member of an economic family that is most well off in terms of financial earnings. All estimates use SLID longitudinal sample weights and bootstrap weights in the final year of each panel. Final-year longitudinal weights are adjusted to take into account respondents who left the survey prior to the end of a panel.

Models

The longitudinal analyses on the risk characteristics associated with persistent low income were conducted using multinomial logistic regressions.[6] Multinomial logistic regressions estimate the probability of one of a set of events occurring (for example, being in low income for 1 year, or 2 years, or 3 years, etc) compared to a reference state (for example, no experience of low income), based on a set of explanatory variables. This technique allows us to examine the relationship between each explanatory variable and the event of interest, while holding all other specified variables constant. Odds ratios are reported based on the regression. They indicate whether certain variables increase or decrease the odds of experiencing various durations of persistent low income, controlling for all other explanatory variables in the model. This study uses bootstrap weights to estimate the standard errors to account for the complex design used in SLID.

The longitudinal analysis examines four different multinomial regression models. The dependent variable in all four models is the number of years in low income, with the four models differing in terms of what this number is (the reference state), the set of explanatory variables used, and whether the data consists exclusively of unattached individuals, or also includes major income earners in families to allow for comparison. Section 6 presents more details on the models along with their results.

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5. Information on SLID variables and their definitions is found in the SILD electronic data dictionary at http://www.statcan.ca/english/freepub/75F0026XIE/75F0026XIE2005001.htm .

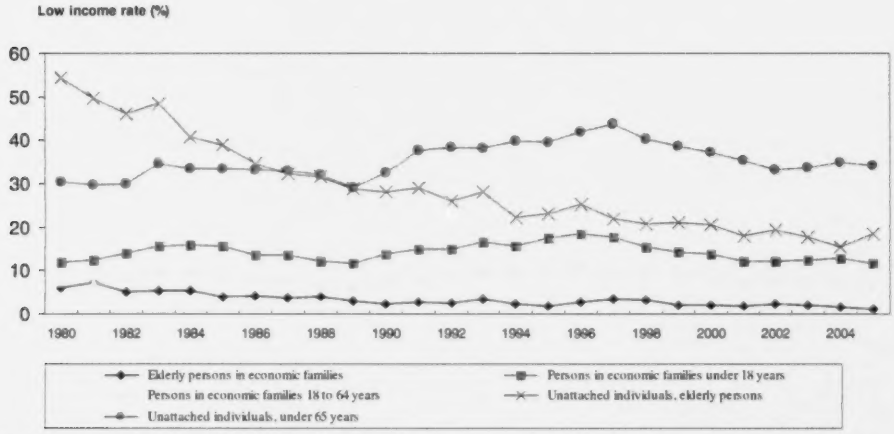
6. Regression models used the SUDAAN software and SLID's 1,000 bootstrap weights.

4. Low income trends and characteristics of non-elderly unattached individuals

4.1 Low income trends

Between 1980 and 2005, the number of non-elderly unattached individuals living in low income more than doubled, from 530,000 in 1980 to 1.18 million in 2005. During the same 25-year period, the low income rate faced by this group rose from 30% to 34%, while low income rates fell for other groups, including the elderly (attached and unattached), lone parent families, and two-parent families with children[7].

Figure 1 Unattached individuals under 65 face highest low income rates after 1989

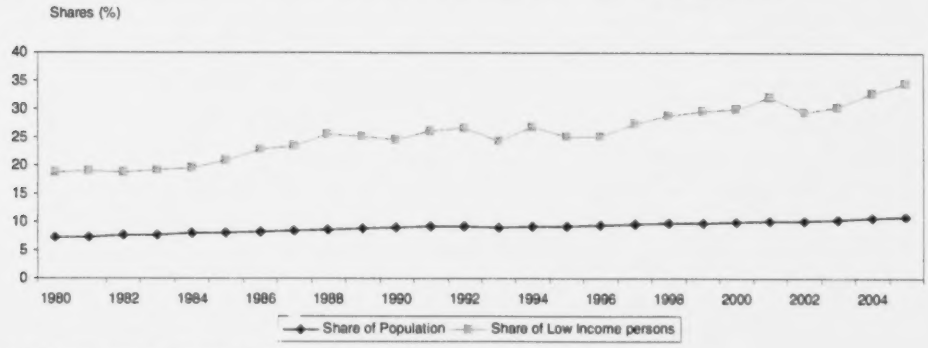


Source: *Statistics Canada, Survey of Labour and Income Dynamics.*

By 1989, non-elderly unattached individuals faced a higher rate of low income than elderly persons (attached or unattached), children under 18, and economic family persons aged 18 to 64. By 2005, unattached individuals faced twice as high a rate of low income as the elderly unattached and more than twice that of all other groups (Figure 1). Figure 2 shows the share of non-elderly unattached among all low income persons exceeded this group's share of the total population. Though this group increased from 7.2% of the population in 1980 to 10.9% by 2005, their share of low income persons ranged from a low of 18.9% in 1980, to a high of 48.3% in 1997. By 2005, this group faced a low income rate of 34.3% - more than three times their population share – and there were almost as many unattached non-elderly in low income as any other group examined (Figure 3).

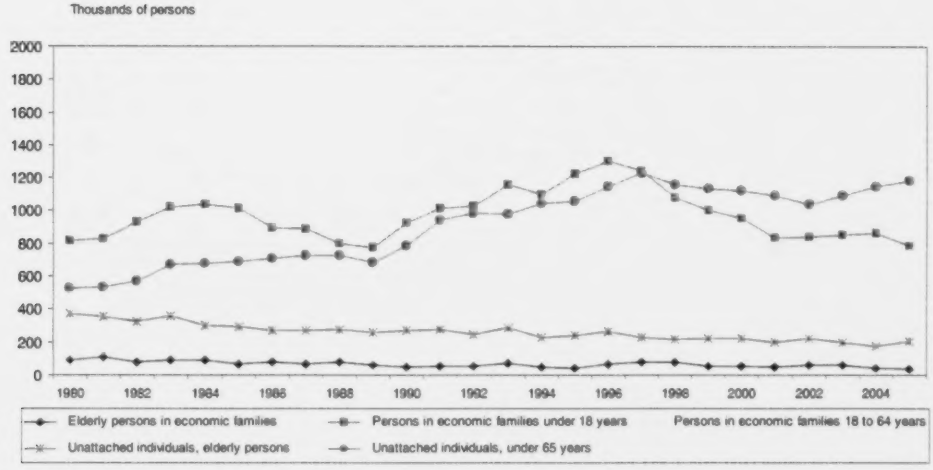
7. Data source: Statistics Canada, Income Trends in Canada (ITC) table 202-0802, "Persons in low income".

Figure 2 Unattached indviduals in low income exceeds their population share



Source: *Statistics Canada, Survey of Labour and Income Dynamics*

Figure 3 By 2005, as many unattached individuals under 65 experienced low income as any other group



Source: *Statistics Canada, Survey of Labour and Income Dynamics.*

4.2 Characteristics of low income unattached individuals

In 2005, roughly one-third of unattached non-elderly men and women experienced low income, though low income rates were slightly higher for women than men (see Table 1). By way of contrast, over half of all unattached individuals with a work-related activity limitation experienced low income. Similarly, over half of the young unattached aged 18 to 24 experienced low income, with low income rates falling for the 25 to 34 age group, and rising steadily for older age groups. In particular, for unattached individuals in the tradition pre-retirement age group, those aged 55 to 64, four of every ten experienced low income. Visible minorities also faced higher rates of low income than other groups.

Among unattached individuals aged 18 to 64 the sub-groups that faced a higher incidence of low income included females; individuals aged 18 to 24; individuals with activity

limitations; individuals with less than a high school diploma; visible minorities; and the not employed. Characteristics associated with lower rates of low income included higher levels of education, and full or part-time employment. These results answer our first question regarding the socio-demographic characteristics of the non-elderly unattached, and are consistent with the findings of other researchers, and are consistent across time. They also identify potential characteristics associated with persistent low income.

Table 1: 2005 low income rates of unattached individuals aged 18 to 64, by various characteristics

Low income rate for total group: 33.2[1]

Characteristic	Low income rate	Characteristic	Low income rate
Sex		**Education**	
Male	31.2	Less than high school	55.0
Female	35.9	High school completed	31.4
		Postsecondary	33.3
Age		University	17.6
18 to 24	58.1		
25 to 34	21.8	**Minority status**	
35 to 44	26.9	Visible minority	43.8
45 to 54	31.6	Not a visible minority	31.8
55 to 64	39.9		
		Work status	
Work-related activity limitation		Employed	20.7
Work limitation	52.9	Self-employed	39.7
No work limitation	28.2	Not employed	68.2

1. This rate excludes individuals under the age of 18, unlike the figures on previous pages.
Source: *Statistics Canada, Survey of Labour and Income Dynamics.*

5. Characteristics of the non-elderly unattached in persistent low income

5.1 Duration and persistence of low income, by various characteristics

Unattached individuals were over-represented in low income. Those who were aged 18 to 64 in the first year of their SLID panel accounted for just 13% of the study population, yet represented 47% of those who were in low income for 6 consecutive years. In this section we examine the distributions of low income, and identify various characteristics associated with more persistent low income among unattached individuals.

In order to examine the duration and persistence of low income, we identified individuals who were unattached in their first year of a panel, and traced their low income experience over six years. These results are shown in Table 2. The general findings with respect to the persistent low income experience of the non-elderly unattached are as follows:

- **Sex has a small effect:** the risk of persistent low income varied little by sex. Men and women faced comparable incidences of persistent low income of most durations, but a smaller proportion of men compared to women faced the most persistent type of low income in our study – the experience of low income for all six years.
- **Positive returns to human capital development:** young adults experienced a higher incidence of 1 to 4 years of low income than other age group, possibly because adults aged 18 to 24 are more likely to attend school or be in the early stages of their work lives; however, a smaller proportion experienced all six years in low income.
- **Positive returns to education:** high school leavers experienced a higher incidence of at least one year of low income (*e.g.* only 37% were never in low income) and a much higher incidence of six years of low income than others; while university graduates experience the smallest incidence of persistent low income of three years or more.
- **Activity limitations:** those with work-related activity limitations in the first year of the study faced a higher incidence of persistent low income of four years or more.
- **Visible minority status:** visible minorities faced a higher incidence of more persistent low income.
- **The unemployed:** the unemployed in the first year of the study faced a higher incidence of low income overall (*e.g.* only 26% were never in low income), and of the most persistent levels of five or six years in low income.

We next provide some elaboration on these findings. In terms of the role of age: almost two thirds of individuals aged 18 to 24 (63%) experienced low income for at least 1 year out of six, and a higher proportion experienced low income for 1 to 4 years than older age groups. However, fewer young adults experienced persistent low income for all six years than any other age group. These results are consistent with past research on the returns to

education and human capital accumulation[8]. Young adults are more likely to be in school or in the early stages of their work/professional life, and hence, more likely to be in low income. Those who invest in education delay both the timing and amount of labour market earnings for higher salary remuneration later. Similarly, those in the early stages of their career are still accumulating experience and human capital required to earn higher salaries. Both phenomena help young adults exit low income.

The most surprisingly finding was that the most persistent type of low income definable in our study – the experience of low income in all six years of six – rose with age. Middle-aged adults aged 45 to 64 were at greater risk of the most persistent low income (all six years in low income) with twenty percent or more of this group experiencing the most persistent low income.

8. See Morissette and Zhang's paper, entitled "Experiencing low income for several years" and Stevens's paper "Climbing out of Poverty, Falling Back in: Measuring the Persistence of Poverty over Multiple Spells."

Table 2 Persistence of low income for unattached individuals, by selected characteristics

Characteristics	Unattached in first year of the panel							Unattached in all six years						
	Years in low income							Years in low income						
	0	1	2	3	4	5	6	0	1	2	3	4	5	6
Both sexes	55.1	11.2	7.7	6.4	5.0	4.0	10.7	55.1	7.9	5.2	4.8	4.2	4.4	18.4
Male	56.8	12.4	7.6	4.8	5.0	4.1	9.4	53.4	10.5	5.7	3.8	5.3	4.6	16.9
Female	53.0	9.8	7.9	8.5	4.9	3.9	12.2	57.2	4.8	4.5	6.1	2.8	4.1	20.6
Age[1]														
18 to 24	37.0	16.9	15.4	13.7	7.7	5.5	3.7	34.7	8.7	10.6	14.9	12.7	7.6	10.8
25 to 34	65.8	13.4	6.7	4.8	2.5	1.6	5.3	64.2	9.9	5.7	4.6	2.1	2.5	11.2
35 to 44	64.4	9.7	4.5	2.8	6.2	3.5	8.9	64.8	8.2	2.9	2.8	4.3	3.7	13.4
45 to 54	53.6	7.1	7.0	5.5	3.6	4.2	19.1	50.3	6.8	5.5	5.0	3.5	4.2	24.7
55 to 64	43.8	9.1	7.5	7.7	6.5	7.0	18.5	40.5	5.8	5.2	3.1	3.8	7.6	34.1
Education[1]														
Less than high school	36.3	7.7	8.6	7.9	6.1	7.9	25.6	32.3	5.4	2.9	5.0	3.1	8.7	42.7
High school completed	57.3	11.2	7.8	5.9	4.2	3.2	10.5	55.4	8.4	8.0	2.9	3.9	4.1	17.4
Postsecondary	55.8	12.8	8.5	6.9	5.7	3.0	7.1	57.7	7.7	6.4	6.2	5.2	3.4	13.6
University	72.9	10.2	5.1	3.9	2.5	2.5	2.9	72.7	9.4	3.3	3.3	3.7	3.0	4.6
Work-related activity limitation[1]														
Work limitation	21.0	6.7	5.8	9.1	8.0	9.0	40.5	16.8	4.1	3.0	2.9	5.9	9.5	57.9
No work limitation	61.6	11.7	8.3	5.5	4.5	2.9	5.5	64.0	8.6	5.8	5.0	3.8	3.3	9.6
Minority status[1]														
Visible minority	45.9	9.7	8.7	6.2	12.8	4.0	12.7	45.2	9.6	9.5	0.6	6.7	8.5	19.9
Not a visible minority	55.7	11.0	7.8	6.3	4.6	4.0	10.6	55.8	7.5	5.0	5.1	4.2	4.3	18.2
Work status[1]														
Employed	68.3	11.3	7.1	4.3	3.8	2.0	3.3	71.1	8.4	4.8	4.0	4.0	2.2	5.7
Self-employed	36.2	14.1	14.3	11.1	8.1	4.8	11.5	34.0	11.4	9.8	11.4	5.3	7.6	20.5
Not employed	26.0	9.9	7.1	10.3	7.0	9.1	30.6	20.0	5.2	4.5	4.7	4.5	9.1	52.0

1. This characteristic applies to individuals as of the first year of their six-year panel.
Source: *Statistics Canada, Survey of Labour and Income Dynamics*

A minimum of about one in five unattached Canadians aged 45 to 64 experienced this time of persistent low income, and the incidence of this persistent low income rose to between 25% and 34% for those that unattached individuals who remained unattached throughout the six years. This raises the important question of why more middle-aged, unattached Canadians experienced the most persistent low income as compared to other groups. A possible explanation of this is offered in the next section.

The impact of education on low income and persistent low income is consistent with theory and past research on the positive returns to education. The proportion of

unattached Canadians who never experienced low income generally rose with level of education. Among the unattached non-elderly, over four in ten with less than university experienced low income at least once in six years, while less than three in ten with a university degree experienced low income.

The degree of persistent low income (from one year in six to six years in six) fell as the level of education rose. Only 4.6% of the university educated experienced the most persistent low income (all six years of six in low income) if they remained unattached throughout the period, and this rate fell to 2.9% for those who subsequently got attached, either because their individual earnings rose sufficiently or because they pooled their income with another family member. At the other extreme, 25.6% of high school dropouts who became subsequently attached faced the most persistent low income, with this rate rising 42.7% for those high school dropouts who remained unattached. There was less difference in the incidence and persistence of low income among those who had completed high school and those who had completed some post-secondary education.

Unattached individuals who were not employed in the first year of their SLID panel were more susceptible to persistent low income later in the six years than those in employment or self-employment. Roughly 74% of the not employed lived in low income for at least one year out of six, compared to 32% of the employed and 64% of the self-employed. The not employed also faced higher rates of the most persistent low income, with 31% in low income for all 6 years, compared to 3.3% and 12% of their employed and self-employed counterparts, respectively.

Self-employed individuals, despite the benefits of income from work, faced a higher incidence of low income than the employed for several possible reasons. As unattached individuals, they lacked the benefits of family income-pooling, and in addition, were not eligible for the same level of support from transfers/tax system as traditional employees and the unemployed people, such as Social Assistance and Employment Insurance.

5.2 Transition into and out of low income, by family status and various characteristics

The role of risk-pooling and the availability of income-pooling for family members offer an explanation of the lower persistence of low-income faced by subsequently attached individuals relative to those who remained unattached all six years of the study. Table 3 explores this explanation in more detail. We consider only those non-elderly individuals *who were unattached in the first of two sequential years* and examine changes in low income status in the second year. The conditional *entry rates apply to those unattached individuals who were not in low income in the first year*, while the conditional *exit rates apply to those unattached individuals who were already in low income in the first year.* We look these rates conditional on whether unattached individuals remained unattached or became attached (started or joined families) in the second year.

Table 3 Transition into and out of low income[1], by family status and selected characteristics

	Unattached in first of two sequential years			
	Unattached in the following year		Attached in the following year	
	Entry rate	Exit rate	Entry rate	Exit rate
	%			
Total	6.0	20.1	2.2	79.5
Sex				
Male	6.1	22.4	2.6	82.6
Female	5.9	18.0	1.8	77.2
Age[2]				
18 to 24	7.2	30.6	1.8	82.3
25 to 34	4.5	24.8	F	83.6
35 to 44	4.8	18.3	F	59.7
45 to 54	6.1	14.0	F	78.7
55 to 64	7.7	14.4	F	77.3
Education[2]				
Less than high school	9.3	12.5	F	68.9
High school completed	5.7	20.5	F	80.9
Postsecondary	5.9	24.2	3	82.1
University	3.8	31.8	F	96.1
Work-related activity limitation[2]				
Work limitation	16.2	8.3	F	78.9
No work limitation	5.1	26.4	1.9	81.0
Minority status[2]				
Visible minority	6.5	22.1	F	59.4
Not a visible minority	5.9	19.9	2.3	82.3
Work status[2]				
Employed	4.6	29.5	F	81.6
Self-employed	11	23.7	22	88.4
Not employed	11.3	12.1	14	72.3

1. This table applies to individuals who were unattached and between the ages of 18 and 64 in the first year of any two sequential years in the survey.
2. This characteristic applies to individuals as of the first year of the two year period.
F too unreliable to be published
Source: *Statistics Canada, Survey of Labour and Income Dynamics*

Across all first year characteristics – sex, age, education level, work-related activity limitation, minority status, and work status – the entry rate into low income was higher for unattached individuals who remained unattached in both years than it was for those

who became attached in the second year. The exit rates from low income were considerably smaller for those who remained unattached. These rates suggest that joining a family in any given year lessens one's chances of entering low income, if one is not already in low income, and increases one's chances of leaving low income, if one is already living in low income. As these patterns hold across the various first year characteristics, the extent to which becoming attached improves an unattached individual's low income situation, over and above the extent to which unobservable characteristics, or some interacting combination of them, determine both improvement of low income and the likelihood of family formation is, at this point, uncertain.

The average annual exit rate from low income for unattached males who remained unattached in two sequential years was 22%. Among unattached males experiencing low income in a given year, 83% of men whose family status changed in the next year (*e.g.* got married or joined a family) transited out of low income.

Breaking down the exit and entry rates by five age groups reveals that younger people (18 to 34) tended more to transit out of low income than older people. This is consistent with literature that holds that as young people complete their education and accumulate human capital and work experience their financial circumstances should improve. For the 18 to 24 years old unattached, 82% who subsequently formed families exited low income, compared to only 31% who remained unattached in the next year.

Ninety-six percent of unattached individuals with university education, who joined an economic family in the sequential next year, exited low income. This figure is three times the exit rate for comparably educated unattached individuals who remained unattached.

The figures in Table 3 appear to indicate that, apart from unattached individuals' family transition statuses (or in addition to them), their educational attainment, work limitation status and work status in the first year of a SLID panel, and their visible minority status, all appear to be associated with whether or not they will experience low income. In the next section, we present some regression analyses results to test whether these apparent patterns are statistically supported.

6. Risk factors associated with persistent low income

6.1 Description of multinomial logistic regression models

This section uses multinomial logistic regressions[9] to identify socio-demographic factors associated with an increased risk of persistent low income. These models allow for the study of longitudinal phenomenon, such as persistent low income. They also allow computation of the relative risk, or odds ratio, of being in any one of a number of low income states compared to a reference low income state. The models included the characteristics identified in earlier studies and earlier sections of this study as potential correlates to persistent low income. Despite the fact that previous research found immigrants were subject to lower earnings and higher risk of low income, we did not

9. Regression models used the SUDAAN software and SLID's 1,000 bootstrap weights.

include immigration status in the analyses because the SLID sample size for immigrant unattached individuals was too small for the purposes of this study.

Within our four models, the dependent variable was the number of years in low income.

- Model 1 used 0 years in low income as its reference state.
- Model 2 and Model 4 used 6 years in low income as their reference state.
- Model 3 collapsed the dependent variable – number of years in low income – into three levels: 0 years in low income; 1 to 4 years in low income; and 5 to 6 years in low income. The last category (5 to 6) was the reference state. The dependent variable was collapsed into 3 categories to allow for significant tests to be run on the visible minority status variable, whose sample was too sparse to be tested over the 7 categories of low income explored in the other analyses.

All models used as their independent variables the following:

- the panel to capture cyclical effects such as the business cycle[10] (panel 1; panel 2; and panel 3);
- age group (18 to 24; 25 to 34; 35 to 44; 45 to 54; 55 to 64);
- sex (male, female);
- education level (less than high school; completed high school; some postsecondary; university graduate);
- work status (employee; self-employed; no work); and
- a dummy variable for activity limitation status.

Model 1, 2 and 3 also included a dummy variable equal to zero for those unattached individuals who remained unattached for all six years of a panel. Model 3 also included a dummy variable for visible minority status. Variable values were defined as per the first year of the panel.

Data used in Models 1, 2 and 3 included only unattached individuals, while Model 4 also included major income earners (MIEs) from families of 2 or more persons to allow for comparisons between unattached individuals and family persons, as defined by the member of a family with the highest earnings.[11]

The statistical results of these models are presented in appendices 4 through 7. For any characteristic used in a model, the table value of the characteristic set equal to 1.000 is the reference level. Relative risks are measured with respect to this reference level, where values greater than 1.000 indicate a higher relative risk as compared to the group in the reference level, and values less than 1.000 indicate a lower relative risk. The magnitude of this relative risk is indicated by the values in the appendix tables.

For example, the 18 to 24 age group is used as the reference level for age in all models, and has tables values equal to 1.000. In appendix 4, the 25 to 34 age group takes the

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10. We found no statistically significant panel effects associated with low income persistence in our regression models, and we found no other effects that would preclude us from combining the panels for our study.
11. It should be noted that in model 4, for comparability, we did not include MIEs from elderly families.

value 0.365 for the column "6 vs 0" years in low income. This means that unattached individuals aged 25 to 34 are only 0.365 times as likely to be in low income for all 6 years as opposed to 0 years, when compared to 18 to 24 year olds. In other words, 25 to 34 years are 2.7 times (2.7 = 1/0.365) more likely to be in low income 0 years as opposed to 6 years, when compared with 18 to 24 year olds.

6.2 Analysis and findings

In this section we summarize the analytical findings of our four multinomial regression models. In general, we found that neither panel nor sex were significant in explaining the relative risks of persistent low income, while age group, education level, work-related activity limitation, and employment status were all statistically significant.

Panel effects were significant only in models 3 and 4, for which panel 3 individuals were less at risk of persistence low income than other panel members. This might reflect the improvement in the economy in the late 1990s, as panel 3 covers the 1999 to 2004 period. Model 3 collapses the categories of persistent low income, while model 4 includes economic family major income earners.

Sex was statistical insignificant in explaining the relative risk of persistence low income for unattached individuals. That is to say, unattached men and women were equally at risk of persistent low income. The one exception – model 4 – in which there was a difference between men and women was influenced by the inclusion of economic family major income earners, including lone parents. In this model, women were 0.712 times as likely to never experience low income compared to a 6 year period of low income as compared to men. Alternatively, we could say that women were 1.4 (1/0.712) times as likely to be in 6 years versus 0 years of low income, as compared to men.

All models show that young adults aged 18 to 24 are at higher relative risk of facing some duration of low income compared to all other age groups. For example, compared to 55 to 64 year olds, those aged 18 to 24 were 4.1 times more likely to be in low income for 1 year, as opposed to 0 years; and 8.2 times more likely to be in low income for 2 years as opposed to 0 years; and in terms of the most persistent low income, they were 4.0 times more likely to be in low income for 6 years as opposed to not at all (Models 1 and 2). These results are consistent with our earlier findings, and the expectations that more young people attend educational institutions and/or are in earlier stages of their earnings cycle.

Other relationships between age and the relative risks of persistent low income are mixed. Compared to unattached individuals 18 to 24 years of age, those aged 55 to 64 were 3.2 times more likely to live in low income for all 6 years, rather than 5 years, while those aged 45 to 54 and 25 to 34 were 3.8 times, and 4.4 times, respectively, more likely to do so than 18 to 24 year olds (Model 2).

Consistent with earlier findings, Model 1 and 2 regression results show that high school leavers were more likely than others to experience any duration of low income compared to no experience of low income. Unattached individuals who had not completed high school were 7.8 times more likely than university graduates to live in low income for 6

six years as opposed to 0 years, and were 5.9 times more likely to live in low income for 6 years as opposed to 1 year. Compared to high school leavers, those who completed high school were 2.5 times more likely to live in low income for 6 years compared to 0 years; while those who had some post-secondary were 3.2 times as likely.

Models 1 and 2 show that in terms of work-related activity limitations, unattached individuals reporting these limitations were 6 times more likely than others to live in low income for 6 years as opposed to 0 years. They were 4.2 times more likely to live in low income for 6 years, as opposed to 1 year, and 4.1 times more likely to live in low income for 6 years as opposed to 2 years. They were 3 times more likely than their counterparts who had not reported work limitations, to live in low income for 3 or 4 years, as opposed to not living in low income at all over the 6-year panel-life.

Model 3 indicates that unattached individuals who reported visible minority status were 3.4 times more likely than others to live in low income for 5 to 6 years, as opposed to not experiencing low income. Due to sample size limitations, this was the only regression model that included visible minority status, and this was the only statistically significant result.

The impact of employment status on persistent low income is also consistent with earlier findings in this paper. Model 1 shows that unemployed unattached individuals were 31 times more likely than employed unattached individuals to live in low income for all 6 years, as opposed to 0 years, and 19 times more likely to live in low income for 5 years, as opposed to 0 years. At the other end of the scale, they were 3 times more likely than employed unattached individuals to live in low income for just 1 year, as opposed to not at all.

Self-employment individuals were 8.6 times more likely than employed unattached individuals to live in low income for all 6 years as opposed to 0 years, and they were 7.6 times more likely than their employed counterparts to live in low income for 5 years as opposed to 0 years. At the other end of the scale, the self-employed were 3.3 times more likely to live in low income for even 1 year, as opposed to not falling in low income at all over the 6 year period.

Models 1 and 2 confirm our previous results that changes in family status impact unattached individuals' experience of and duration of low income low income. Unattached individuals who remained unattached for six years were 12 times more likely than those who formed or joined families to live in low income for 6 years as opposed to 0 years; 17 times more likely than their counterparts to live in low income for 6 years, as opposed to 1 year; 13 times more likely than their counterparts to be in low income for 6 years, as opposed to 4 years; and 4.5 times more likely to be in low income for 6 years as opposed to 5 years.

Our final model, Model 4, compared unattached individuals and economic families using the major income earner (MIE) in an economic family as the comparison person. Appendix 3 provides the distributions of persistent low income for MIEs and motivates

this model.[12] Our regression analysis indicates that unattached individuals are, indeed, more likely live in low income than MIEs. For example, they are 7.7 times more likely than MIEs to experience low income for 6 years, as opposed to 0 years; they are 3.5 times more likely to experience low income for 6 years as opposed to 1 year; and this pattern continues even as the duration of low income increases, so that they are 2.3 times more likely than MIEs to be in low income for 6 years as opposed to 5 years.

Conclusion

After 1989, non-elderly unattached individuals aged 16 to 64 faced the highest rate of low income, and by 2005, there were as many low income persons from this group as from any other group (*e.g.* persons in economic families aged 18-64; elderly persons in economic families; *etc.*). Among non-elderly unattached individuals aged 18 to 64, those who faced the highest incidence of low income included the young aged 18 to 24, high school leavers, those reporting work-related activity limitations, and the unemployed.

In terms of the most persistent low income, those at the highest incidence included the unemployed, visible minorities, those reporting work-related activity limitations, high school leavers, those aged 45-54, and those who remained unattached status over the six year period. When we control for all other factors in our regression models, we find that these same groups face the highest risk of persistent low income, apart from those aged 45-54, who face a relatively lower risk than unattached individuals aged 18-24[13]. While both age groups face a substantial risk of persistent low income, there is an overarching prevalence of young people in low income, both as they are incumbent in entry level positions and as they delay gratification in the labour market to pursue educational goals. Also, it is possible that those aged 45 to 54 in persistent low income may find themselves in the state of persistent low income partially due to other, interacting factors, such as their employment status, visible minority status, education level, and work-related activity limitation; examination of interaction effects between the explanatory variables is worth further exploration, but is beyond the scope of this study.

While determining the factors associated with low income and persistent low income, several important questions remain. For example, why have unattached individuals experienced increases in their incidence of low income over the past two decades while other groups, such as lone parents, experienced a decline? Is it true that the higher incidence of the most persistent low income experience by older workers is driven by factors such as employment status, education level, and work-related activity limitation?

12. Appendix 3 gives the breakdowns for non-elderly MIEs comparable to Table 2 results for unattached non-elderly individuals. These results show that in comparison to the unattached, a higher proportion of MIEs never experienced low income and, in general, MIEs faced lower incidences of persistent low income. For example, the incidence of being in low income for at least one year was 16% for MIEs and 45% for unattached individuals (*i.e.* only 84% of MIEs were in low income for 0 years as opposed to 55% of unattached individuals who were never in low income). The incidence of the most persistent low income (6 of 6 years) was 11% for unattached individuals and 1.7% for MIEs for those individuals whose status as unattached or MIE did not change. For those whose status did change from the first year of the panel, 18% of unattached individuals were in low income for 6 years compared to just 1.6% of MIEs.

13. In terms of age, 18-24 year olds were more likely than other age groups to live in low income, at each level of persistence, than to not be living in low income at all. However, at the most persistent level, 45-54 year olds were 4 times more likely than 18-24 years olds to live in low income for 6 years as opposed to 5.

Models exploring the interaction between age and these factors might better answer this question.

While these remain questions for further research, the current study provides a good starting point in underling the importance of following the low income dynamics of this group using longitudinal data, and in understanding important characteristics associated with their low income experience.

Definition of key terms

A Low income cut-off (LICO) is an income threshold below which a family will likely spend a larger share of its income, 20 percentage points more than the average family, on food, shelter and clothing. According to the most recent base for LICOs, the 1992 Family Expenditures Survey, the average family spent 43% of its after-tax income on the necessities of food, shelter and clothing. Low income cut-offs are differentiated by community size of residence and family size.

In this paper, a person is considered to be in **low income** in any year that the total after tax income of the economic family or families in which this person was residing falls below the relevant low income threshold (LICOs) for that year.

The incidence of low income (low income rate) is the percentage of the population of interest living in families in which the total family income falls below the relevant low income threshold.

An economic family is defined as a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common law or adoption. Economic families include couples, couples with children, couples with relatives but no children, lone-parent families, and other family types. The study population includes people in economic families with two or more persons and unattached individuals.

An **unattached individual** is a person living either alone or with others to whom he or she is unrelated, such as roommates or a lodger.

Non-Elderly means people under age of 65.

Appendix 1
Table 1 Annual rates of exiting low income for unattached individuals[1]

	Unattached in the next sequential year						Attached in the next sequential year					
	1st/ 2nd	2nd/ 3rd	3rd/ 4th	4th/ 5th	5th/ 6th	average	1st/ 2nd	2nd/ 3rd	3rd/ 4th	4th/ 5th	5th/ 6th	average
Total	17.2	25.0	19.3	19.2	19.8	20.1	78.07	80.03	77.99	77.17	84.08	79.5
Male	22.2	28.0	20.0	19.8	21.8	22.4	81.5	89.5	77.2	78.9	85.9	82.6
Female	11.9	22.1	18.5	18.7	17.9	17.8	71.6	74.0	78.8	75.6	82.8	76.6
Age												
18 to 24	18.4	33.8	30.6	31.9	37.0	30.3	75.2	87.3	76.4	83.3	89.5	82.3
25 to 34	27.0	28.6	22.1	22.9	23.5	24.8	78.1	93.9	94.0	58.5	93.5	83.6
35 to 44	15.4	29.7	15.9	16.1	14.5	18.3	69.8	29.5	56.3	74.3	68.8	59.7
45 to 54	15.6	17.6	13.4	12.7	10.5	14.0	79.3	78.3	70.0	84.8	81.3	78.7
55 to 64	7.8	18.4	13.9	13.9	17.9	14.4	88.4	99.4	79.4	64.7	54.8	77.3
Education[2]												
Less than high school	9.5	15.7	11.8	9.9	15.4	12.5	66.5	83.9	65.0	66.2	62.9	68.9
High school completed	18.8	23.1	15.9	25.6	19.2	20.5	55.2	86.4	82.1	88.9	92.2	80.9
Postsecondary	18.1	30.1	24.0	25.1	23.9	24.2	83.0	75.8	83.3	76.9	91.7	82.1
University	34.5	39.4	35.3	30.4	19.2	31.8	94.2	100.0	90.2	96.3	100.0	96.1
Work limitation[2]												
Work limitation	6.2	8.6	8.9	10.3	7.5	8.3	87.3	94.1	65.1	82.6	65.4	78.9
No work limitation	21.9	34.2	25.7	23.8	26.5	26.4	80.9	78.6	82.6	75.2	87.8	81.0
Minority status[2]												
Visible minority	9.1	32.7	15.8	17.5	35.5	22.1	20.3	34.4	100.0	68.2	73.9	59.4
Not a visible minority	17.4	24.4	19.7	19.2	18.8	19.9	82.3	89.2	77.3	77.3	85.5	82.3
Work status[2]												
Employed	23.7	37.2	27.8	26.9	31.9	29.5	82.5	79.8	83.7	76.5	85.8	81.6
Self-employed	25.1	30.0	25.5	21.0	17.1	23.7	89.3	98.5	73.3	85.4	95.5	88.4
Not employed	10.2	15.1	11.4	12.9	10.8	12.1	63.0	76.2	69.3	74.4	78.6	72.3

1. Unattached individuals in the first year of comparison of family status in any two sequential years.
2. This characteristic applies to individuals as of the first year of their six-year panel
Source: *Statistics Canada, Survey of Labour and Income Dynamics*

Table 2 Annual rates of entering low income for unattached individuals[1]

	Family status unchanged						Family status changed					
	1st/ 2nd	2nd/ 3rd	3rd/ 4th	4th/ 5th	5th/ 6th	average	1st/ 2nd	2nd/ 3rd	3rd/ 4th	4th/ 5th	5th/ 6th	average
Total	6.9	6.5	5.9	5.9	4.9	6.0	1.5	2.1	3.49	2.0	1.74	2.2
Male	6.7	7.1	5.1	5.8	5.8	6.1	F	2.2	4.5	2.2	1.6	2.6
Female	7.1	5.7	6.8	6.0	3.6	5.9	F	F	F	1.6	1.9	1.7
Age[2]												
18 to 24	7.3	7.4	6.1	10.1	5.0	7.2	F	F	F	1.9	1.8	1.8
25 to 34	4.2	6.9	3.5	4.2	3.6	4.5	F	F	F	F	F	F
35 to 44	6.7	4.3	6.4	6.5	5.3	5.8	F	F	F	6.2	F	F
45 to 54	6.2	7.6	6.9	4.7	5.2	6.1	F	F	9.8	F	F	F
55 to 64	12.7	7.3	7.6	4.9	6.1	7.7	F	F	F	F	F	F
Education[2]												
Less than high school	11.0	11.2	10.0	7.7	6.8	9.3	F	F	F	F	F	F
High school completed	6.9	5.9	4.3	6.4	5.0	5.7	F	F	F	F	F	F
Postsecondary	6.6	6.5	5.7	6.1	4.7	5.9	F	3.0	3.8	2.5	2.6	3.0
University	3.9	3.9	3.5	3.9	3.9	3.8	F	F	F	F	F	F
Work limitation[2]												
Work limitation	24.9	14.4	15.9	14.7	11.3	16.2	F	F	F	F	F	F
No work limitation	4.9	6.0	5.1	5.1	4.5	5.1	1.4	1.3	2.77	2.1	1.7	1.9
Minority status[2]												
Visible minority	8.3	8.79	6.1	4.0	5.1	6.5	F	F	F	F	F	F
Not a visible minority	6.6	6.38	5.8	6.0	4.8	5.9	1.5	2.3	3.69	2.1	1.78	2.3
Work status[2]												
Employed	4	5.71	4.2	4.6	4.4	4.6	1.4	2.1	1.12	1.7	1.99	1.7
Self-employed	14	8.06	15.4	10.6	6.82	11.0	F	F	21.8	F	F	22
Not employed	20	10.3	8.8	10.4	6.44	11.3	F	F	14.4	F	F	14

1. Unattached individuals in the first year of comparison of family status in any two sequential years.
2. This characteristic applies to individuals as of the first year of their six-year panel.

F too unreliable to be published

Source: *Statistics Canada, Survey of Labour and Income Dynamics*

Table 3 Incidence of low income for major income earners, by selected characteristics

Characteristics	Major income earners in first year of the panel							Major income earners in all six year						
	Years in low income							Years in low income						
	0	1	2	3	4	5	6	0	1	2	3	4	5	6
Both sexes	84.1	6.1	3.5	2.0	1.6	1.2	1.6	86.5	4.9	2.7	1.7	1.2	1.4	1.7
Male	87.2	5.5	2.6	1.7	1.3	0.9	0.9	90.3	4.3	2.1	1.2	0.8	0.7	0.6
Female	74.8	8.0	6.2	3.0	2.5	2.1	3.6	73.1	7.0	5.0	3.1	2.6	3.8	5.5
Age[1]														
18 to 24	61.2	15.4	9.5	3.9	5.5	1.6	2.9	62.8	12.3	9.2	6.9	3.6	1.9	3.3
25 to 34	81.6	6.3	3.8	2.5	1.6	1.8	2.5	86.6	5.1	3.0	1.5	1.0	1.2	1.6
35 to 44	85.5	5.8	2.8	1.8	1.2	1.3	1.5	90.1	3.8	2.0	0.9	0.8	1.3	1.1
45 to 54	88.1	4.5	3.0	1.8	1.4	0.5	0.8	91.4	3.9	1.8	0.7	0.5	0.5	1.2
55 to 64	84.0	6.7	3.8	1.8	1.7	0.9	1.2	77.6	6.7	3.8	3.4	2.6	2.7	3.4
Education[1]														
Less than high school	75.9	7.4	4.3	3.3	3.5	1.8	3.9	76.2	6.1	4.4	2.7	3.1	2.5	5.0
High school completed	83.0	6.3	3.9	1.7	1.2	2.0	1.9	87.3	4.6	2.0	1.3	0.9	1.8	2.1
Postsecondary	85.0	6.1	3.6	2.0	1.3	0.9	1.0	88.0	5.1	2.7	1.7	0.8	1.0	0.8
University	92.1	4.0	1.7	1.1	0.4	0.3	0.3	93.4	3.0	1.8	0.8	0.3	0.6	0.2
Work-related activity limitation[1]														
Work limitation	67.4	9.3	6.1	3.1	5.6	3.5	5.0	65.1	6.7	5.6	4.8	4.4	4.7	8.7
No work limitation	85.6	5.7	3.3	1.9	1.2	1.0	1.3	88.5	4.7	2.5	1.4	0.9	1.0	1.2
Minority status[1]														
Visible minority	68.2	6.5	5.4	3.6	5.2	4.2	6.9	81.6	3.9	4.1	2.1	1.2	3.2	3.8
Not a visible minority	85.6	6.0	3.3	1.9	1.2	0.9	1.1	86.9	4.9	2.6	1.6	1.2	1.2	1.6
Work status[1]														
Employed	89.4	5.1	2.6	1.2	0.8	0.6	0.4	92.3	3.8	1.7	0.8	0.6	0.5	0.4
Self-employed	75.2	9.2	6.1	4.1	2.2	1.5	1.8	78.2	8.2	6.3	2.9	1.3	1.6	1.6
Not employed	63.5	8.7	5.9	4.6	5.1	4.2	7.9	62.4	8.5	5.5	5.2	4.1	5.7	8.6

1. This characteristic applies to individuals as of the first year of their six-year panel.
Source: *Statistics Canada. Survey of Labour and Income Dynamics*

Table 4 Odds ratios from multinomial regression for model 1

	Years in low income					
	6 vs. 0	5 vs. 0	4 vs. 0	3 vs. 0	2 vs. 0	1 vs. 0
Intercept	0.037**	0.220**	0.354**	0.237**	0.578**	0.403**
Panel 1	1.000	1.000	1.000	1.000	1.000	1.000
Panel 2	1.281	0.993	0.720	1.429	1.130	1.229
Panel 3	0.677	0.515	0.499	0.854	1.042	1.114
Male	1.000	1.000	1.000	1.000	1.000	1.000
Female	1.333	1.090	0.980	2.021	1.167	0.939
Age 18 to 24	1.000	1.000	1.000	1.000	1.000	1.000
Age 25 to 34	0.365**	0.087**	0.154**	0.205**	0.217**	0.462**
Age 35 to 44	0.243**	0.100**	0.379	0.095**	0.120**	0.329**
Age 45 to 54	0.430**	0.113**	0.194**	0.136**	0.215**	0.244**
Age 55 to 64	0.247**	0.078**	0.161**	0.090**	0.122**	0.245**
Under high school	1.000	1.000	1.000	1.000	1.000	1.000
High school completed	0.398**	0.419**	0.565	0.494*	0.620	0.938
Postsecondary	0.312**	0.373**	0.757	0.705	0.671	1.112
University	0.129**	0.300**	0.323**	0.396**	0.373**	0.767
No work limitation	1.000	1.000	1.000	1.000	1.000	1.000
Work limitation	5.965**	3.734**	3.008**	2.965**	1.469	1.437
Employed	1.000	1.000	1.000	1.000	1.000	1.000
Self-employed	8.621**	7.606**	5.682**	9.647**	6.376**	3.300**
Not employed	30.594**	19.299**	7.396**	10.209**	5.336**	3.760**
Family status changed within 6yrs	1.000	1.000	1.000	1.000	1.000	1.000
Unattached for all 6 years	12.325**	2.735**	0.951	1.038	0.728	0.714*

Note: **Statistically significant at the 1% significance level
*Statistically significant at the 5% significance level
Source: *Statistics Canada, Survey of Labour and Income Dynamics*

Table 5 Odds ratios from multinomial regression for model 2

	0 vs. 6	1 vs. 6	2 vs. 6	3 vs. 6	4 vs. 6	5 vs. 6
Intercept	26.973**	10.876**	15.580**	6.397	9.539**	5.941**
Panel 1	1.000	1.000	1.000	1.000	1.000	1.000
Panel 2	0.781	0.960	0.882	1.116	0.562	0.776
Panel 3	1.476	1.644	1.538	1.307	0.737	0.760
Male	1.000	1.000	1.000	1.000	1.000	1.000
Female	0.750	0.705	0.876	1.213	0.735	0.818
Age 18 to 24	1.000	1.000	1.000	1.000	1.000	1.000
Age 25 to 34	2.737*	3.498	0.595	0.560	0.421	0.239*
Age 35 to 44	4.121**	1.357	0.577	0.390	1.561	0.414
Age 45 to 54	2.327*	0.568	0.499	0.318*	0.452	0.263**
Age 55 to 64	4.043**	0.991	0.494	0.365	0.652	0.315*
Under high school	1.000	1.000	1.000	1.000	1.000	1.000
High school completed	2.509**	2.353**	1.556	1.241	1.419	1.052
Postsecondary	3.201**	3.559**	2.148**	2.255**	2.423**	1.193
University	7.756**	5.945**	2.897*	3.068*	2.502	2.328
No work limitation	1.000	1.000	1.000	1.000	1.000	1.000
Work limitation	0.168**	0.241**	0.246**	0.497*	0.504*	0.626
Employed	1.000	1.000	1.000	1.000	1.000	1.000
Self-employed	0.116**	0.383**	0.740	1.119	0.659	0.882
Not employed	0.033**	0.123**	0.174**	0.334**	0.242	0.631
Family status changed within 6yrs	1.000	1.000	1.000	1.000	1.000	1.000
Unattached for all 6 years	0.081**	0.0580**	0.059**	0.084**	0.077**	0.222**

Note: **Statistically significant at the 1% significance level
*Statistically significant at the 5% significance level
Source: *Statistics Canada. Survey of Labour and Income Dynamics*

Table 6 Odds ratios from multinomial regression for model 3

	0 vs. 5 to 6	1 to 4 vs. 5 to 6
Intercept	6.073**	9.072**
Panel 1	1.000	1.000
Panel 2	0.817	0.965
Panel 3	1.532*	1.457
Male	1.000	1.000
Female	0.814	0.927
Age 18 to 24	1.000	1.000
Age 25 to 34	5.419**	1.494
Age 35 to 44	6.942**	1.500
Age 45 to 54	4.472**	0.910
Age 55 to 64	7.453**	1.169
Under high school	1.000	1.000
High school completed	2.393**	1.610
Postsecondary	2.998**	2.437**
University	5.909**	2.719**
No work limitation	1.000	1.000
Work limitation	0.192**	0.397**
Employed	1.000	1.000
Self-employed	0.121**	0.663
Not employed	0.039**	0.225**
Family status changed within 6yrs	1.000	1.000
Unattached for all 6 years	0.147**	0.120**
Not visible minority	1.000	1.000
Visible minority	0.295*	0.644

Note: **Statistically significant at the 1% significance level
*Statistically significant at the 5% significance level
Source: *Statistics Canada, Survey of Labour and Income Dynamics*

Table 7 Odds ratios from multinomial regression for model 4

	0 vs. 6	1 vs. 6	2 vs. 6	3 vs. 6	4 vs. 6	5 vs. 6
Intercept	39.841**	8.822**	7.249**	3.69**	3.756**	1.711
Panel 1	1.000	1.000	1.000	1.000	1.000	1.000
Panel 2	1.032	1.247	1.148	1.125	0.863	0.864
Panel 3	1.561**	1.607	1.275	1.262	0.955	0.920
Male	1.000	1.000	1.000	1.000	1.000	1.000
Female	0.712**	0.882	1.022	1.272	1.008	1.167
Age 18 to 24	1.000	1.000	1.000	1.000	1.000	1.000
Age 25 to 34	1.084	0.443	0.358**	0.407**	0.353**	0.625
Age 35 to 44	1.607**	0.471**	0.319**	0.375**	0.432**	0.622
Age 45 to 54	2.174**	0.483**	0.422**	0.399**	0.436**	0.509**
Age 55 to 64	7.751**	1.810*	1.111	1.010	0.863	0.902
Under high school	1.000	1.000	1.000	1.000	1.000	1.000
High school completed	1.708**	1.409**	1.326	0.940	0.852	1.295
Postsecondary	2.962**	2.354**	1.995**	1.772**	1.745**	1.444*
University	7.737**	4.062**	2.504**	3.123**	2.035*	1.986
No work limitation	1.000	1.000	1.000	1.000	1.000	1.000
Work limitation	0.389**	0.598**	0.640**	0.614**	0.812	0.863
Employed	1.000	1.000	1.000	1.000	1.000	1.000
Self-employed	0.145**	0.387**	0.622*	0.736	0.551*	0.779
Not employed	0.030**	0.677**	0.102**	0.171**	0.227**	0.405**
Major income earners in economic families[1]	1.000	1.000	1.000	1.000	1.000	1.000
Unattached individuals[1]	0.131**	0.283**	0.328**	0.409**	0.447**	0.432**

1. The terms "Major Income Earner in economic families" and "Unattached individuals" was determined by family and earnings status as of the first year in the panel.

Note: **Statistically significant at the 1% significance level
*Statistically significant at the 5% significance level

Source: *Statistics Canada, Survey of Labour and Income Dynamics*

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